Environmental Appeal Board
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DECISION NO. EAB-WSA-21-A008(a)

In the matter of an appeal under section 105 of the *Water Sustainability Act*, S.B.C. 2014, c. 15

BETWEEN:	Hans Buchler	**APPELLANT**
AND:	Assistant Water Manager	**RESPONDENT**
BEFORE:	A Panel of the Environmental Appeal Board Diana Valiela, Panel Chair	
DATE:	Conducted by way of written submissions concluding on April 12, 2022	
APPEARING:	For the Appellant: Self-represented	
	For the Respondent: Livia Meret, Counsel Amanda Macdonald, Counsel	

APPEAL

[1] Hans Buchler (the "Appellant") appeals the April 15, 2021, decision of Ray Reilly, the Assistant Water Manager, Okanagan Shuswap Natural Resource District (the "Respondent") to issue Conditional Water Licence 501756 (the "Licence") under section 140(1) of the *Water Sustainability Act* (the "*Act*"). The Appellant owns land near Oliver, in the south Okanagan, and uses part of that land to grow crops. He irrigates the crops with water from aquifer #257, using a well built in 1981 and an irrigation system installed in 1982. The Respondent works for the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (the "Ministry").

[2] The Licence authorizes the Appellant to divert a specific volume of groundwater from aquifer 257 for the irrigation of 8.1 hectares of land, subject to certain terms and conditions. The Appellant seeks increases in the volume of water he is allocated and in the extent of land that can be irrigated.

[3] The Environmental Appeal Board (the "Board") has the authority to hear the appeal under section 105 of the *Act*. Section 105(6) of the *Act* provides that, on appeal, the Board may:

a) send the matter back, with directions, to the comptroller, water manager or engineer who made the order[1] being appealed,

b) confirm, reverse or vary the order being appealed, or

c) make any order that the person whose order is being appealed could have made and that the board considers appropriate in the circumstances.

[4] This appeal was heard based on written submissions.

BACKGROUND

Applicable Law

[5] In British Columbia, historically, the use of water from a well drilled in an aquifer did not require a water licence. That changed when the *Act*'s groundwater licensing provisions came into effect. The *Act* and the *Water Sustainability Regulation*, B.C. Reg. 36/2016 (the "*Regulation*"), require users of groundwater wells that existed before February 29, 2016, and that are not used for domestic purposes, to apply for a water licence by March 1, 2022.

[6] Specifically, section 140 of the *Act* and section 15 of the *Regulation* provide transitional provisions allowing existing uses of groundwater to continue and to become licensed, which was not available previously. Persons already diverting or using groundwater[2] when the *Act*'s groundwater licensing provisions first came into effect, on February 29, 2016, may be issued a licence if they apply for an existing use groundwater licence by March 1, 2022. Further, if the applicant provides evidence of the date of first diversion and use of the groundwater from the aquifer, the licence will have the date of first use as its precedence date[3]. Section 55 of the *Regulation* exempts existing groundwater use applications from paying an application fee and from consideration of the environmental flow needs of a stream that the decision maker considers is reasonably likely to be hydraulically connected to the aquifer.

[7] Subject to the above transitional groundwater provisions, the *Act* and the *Act*'s regulations continue to apply, including section 14(1)(f)(i) of the *Act*. It provides that the decision maker may issue a water licence to the applicant subject

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[1] Under section 1 of the *Act*, "order" includes a decision.

[2] for uses other than domestic purpose

[3] Section 22 of the *Act* provides: "The rights exercisable under an authorization that authorizes the diversion of water from an aquifer have precedence in relation to the rights of other authorization holders who divert water from the aquifer, or another aquifer the decision maker considers is reasonably likely to be hydraulically connected to that aquifer, according to the date set out in the authorization as the date from which the rights take precedence." An early precedence date is therefore important for continuing access to water at times of drought and where there are competing licensees.

to prescribed terms and conditions and on the terms and conditions the decision maker considers advisable.

The Appellant

[8] The Appellant cultivates grapes on part of the land he owns near Oliver, British Columbia. To irrigate his crops, the Appellant uses water drawn from aquifer 257 via a well that was constructed before February 29, 2016, as well as water diverted from a stream known as Park Rill. The Appellant holds two water licences on Park Rill: one authorizes the storage of water from Park Rill using a dam, and the other authorizes the Appellant to use water from Park Rill for irrigation and domestic use.

Application for the Licence

[9] On January 18, 2017, the Appellant applied for a licence authorizing diversion and use of 120,000 cubic metres (m^3) of water per year from aquifer #257, between April to November, to irrigate 12 acres of his land (the "Application"). To support the date when the groundwater use began, the Appellant submitted the original easement application for well power and described the fully constructed pumps in the well, the well ID plate number, depth of the well, and its geographic coordinates. The well was constructed on July 30, 1981. He submitted a vineyard map, which showed the extent of irrigated land and the layout of the irrigation system. According to the Application, the works and the water use have no effect of any kind on Crown or private land. The Appellant submitted a map of the well location.

The Licence

[10] On August 9, 2018, the Respondent prepared a Water Licence Technical Report (the "Technical Report") and concluded that the priority date as submitted by the Appellant is reasonable, since it matches the date in the well record. The Technical Report states that the water from this well has been in use for several decades, so any impact on the aquifer would have been expressed. It has been in use since its installation in 1981, and there are no reports of the well having a water shortage.

[11] The Technical Report states that the aquifer is likely connected to Park Rill, which runs through the Appellant's land. Park Rill is noted as fully recorded[4] for irrigation, and applications to divert and use water from it for irrigation have been refused in the past. The Technical Report states that the impacts on Park Rill of withdrawing water from the aquifer are unknown, but with the well being relatively shallow, and very close to the creek, the impacts would have been shown by now. It states the aquifer report suggests connectivity with Park Rill is unlikely, but given the location of the well and the depth to water, it seems highly likely that there is at least local connectivity.

[4] In general, a fully recorded stream is a stream on which all of the water available for licensed use has been allocated and, based on the information available at the time of the last inspection, no further licences should be considered on the stream.

[12] The Technical Report states that the Application calculated the amount of water that the Appellant was using based on the whole area of two lots and the irrigation needs of forage crops, whereas the Respondent used the area actually irrigated (estimated to be 8.1 hectares based on aerial photography and documents sent by the Appellant) and the amount of water required by grape crops and a cover crop. The Respondent's calculations in the Technical Report utilized the BC Agricultural Water Demand Calculator ("AWDC") [5].

[13] Based on the Technical Report, the Appellant's submissions, and other sources of information, the Respondent issued a licence on April 15, 2021 (the "Licence"). It allows the Appellant to divert 61,410 m^3 per year from aquifer 257 to irrigate 8.1 hectares of the Appellant's land from April 1 to November 1. The authorized works are the existing pump, well, and irrigation system. The precedence date of the Licence is July 30, 1981. The Licence requires the licensee to use a measuring device and/or a method of calculation to measure and record the volume of water diverted under the Licence to the satisfaction of an engineer under the *Act* and to retain records of the water volume diverted under the Licence for inspection upon request by an engineer under the *Act*.

[14] A cover letter sent with the Licence contains the Respondent's reasons for his decision. It states, in part:

> … the quantity of water approved under this application has been reduced from the amount which you applied for. For application as an existing groundwater user, the water must have been in use prior to the introduction of the *Water Sustainability Act* in 2016. Through analysis of available imagery, and the information provided in your application, it appears as though you have applied for a crop which was not being grown on the appurtenant[6] land in 2016, and it also appears as though you have applied for water use on land that is larger than the area cultivated in 2016. This water would be considered a future use and would require a separate new groundwater use application. …

The Appeal

[15] On June 13, 2021, the Appellant filed his appeal of the Licence. In the reasons for appeal and particulars provided with his Notice of Appeal, the Appellant says he is seeking the following results:

I had applied for a licence for 120,000 m^3 but will accept 100,000 m^3

[5] The BC Agricultural Water Demand Calculator is a tool that government agencies and agricultural water users in British Columbia use to estimate annual irrigation demand, based on the geographic location of the land, soil type, crop type, and type of irrigation.

[6] Under section 20 (1) of the *Act*, water licence rights are attached to a particular land, mine or undertaking. While the licensee is the holder of the licence, the licence is appurtenant to the land, mine or undertaking, and remains with the land if there is a transfer of ownership.

I want to see a system developed that will provide existing water rights holders future flexibility to change crop

Clarification on beneficial use

Clarification on surface water diversion

[16] In his written submissions to the Board, the Appellant provided more detail on the remedies he seeks with the appeal, which I have reproduced below:

1. Issue a licence for 100,000 m^3 for the water diverted from aquifer #257.
2. Cease the use of BCAWC for determining licence volume. Base licence volume on the need for forage crops, until an equitable system for future changes to cropping patterns that will not discriminate against growers of low water demand crops, has been developed and implemented.
3. Include the cover crop option in the BCAWC for all perennial row crops that grow inter row cover crops.
4. Change [the *Act*'s[7]] section 30(3)(a) [from saying] *state whether the licensee has, during the 3 years preceding the date of the declaration*, ...to [say] *(a) state whether the licensee has, during the 10 years preceding the date of the declaration*, ...
5. Recognize Park Rill storage as an infiltration basin for aquifer recharge and recognize that diversion of legitimately stored surface water to an aquifer by infiltration is not prohibited by the [*Act*].

ISSUES

[17] The main question in this appeal is whether the Licence should be varied to authorize the Appellant to use a larger volume of groundwater for irrigation and to irrigate a larger area of land. After considering the parties' submissions on the main issue, I found it was necessary to do a more detailed analysis of the relevant statutory provisions to determine if they limited the decision maker's discretion in setting the amount of water and the amount of the Appellant's land that can be irrigated under the Licence.

[18] Consequently, before deciding the main question, I considered two other issues. The following issues are addressed in this decision:

1. Does the transitional legislation dictate that the volume of water and the extent of land that can be irrigated under an existing use groundwater licence must be those in use on February 29, 2016, or on the date of first use, or at any other time?
2. If not, does the decision maker have discretion in setting the volume of water and the extent of land that can be irrigated under an existing use groundwater

[7] Section 30(3)(a) of the *Act* requires a licensee to provide a declaration to the Ministry stating "whether the licensee has, during the 3 years preceding the date of the declaration, made beneficial use of the licensed quantity of water and complied with all other terms and conditions of the licence".

licence as those in use on February 29, 2016, or on the date of first use, or at any other time?

3. If there is such discretion, do the evidence and facts in this case support varying the Licence as requested by the Appellant?

[19] The parties made extensive submissions on issue 3, including on the following sub-issues:

a. The Respondent's Expert Witnesses

b. Use of the AWDC

c. Discrimination against grape growers

d. Beneficial Use of Water Provisions

e. Infiltration of stored surface water to aquifer

DISCUSSION AND ANALYSIS

1. Does the transitional legislation dictate that the volume of water and the extent of land that can be irrigated under an existing use groundwater licence be those in use on February 29, 2016, or on the date of first use, or at any other time?

[20] Section 140 of the *Act* provides (in part):

(1) Despite section 6 (1) *[use of water]*, a person who, on the date section 6 comes into force, is diverting or using, including storing, water ... from an aquifer for a water use purpose may continue to divert, store and use water from that aquifer for that purpose as follows:

(a) if the person applies for an authorization on or before the date that applies to the person by regulations under subsection (2)(c), until the date a decision is made on the application;

...

[21] Therefore, section 140(1) allows a person who "on the date section 6 comes into force, is diverting or using... water from an aquifer..." to continue that use, and only requires the decision maker to decide whether the Applicant is diverting or using groundwater on February 29, 2016 to determine whether the person qualifies to apply for an existing use licence (my emphases).

[22] However, under regulations passed under section 140(2) of the *Act*, the decision maker is then required to examine the previous use of water from the aquifer to determine the date of first use.

[23] Section 55 of the *Regulation* provides:

55 (1) A person to whom section 140 (1) of the Act applies must apply on or before March 1, 2022 for an authorization authorizing the person's diversion and use of water from an aquifer.

...

(5) For the purposes of section 22 (1) [precedence of rights] of the Act, the date set out in an authorization issued in relation to an application under subsection (1) of this section is to be the person's date of first use in relation to the diversion and use of water from the aquifer.

[24] Section 1 of the *Act* defines "date of first use" as follows:

"date of first use", in relation to a use of groundwater from an aquifer for a water use purpose, means the date from which the comptroller, a water manager or an engineer is satisfied in accordance with the regulations that groundwater from the aquifer has been used

(a) regularly and beneficially on an ongoing basis,

(b) for the water use purpose, and

(c) land, or for a mine or undertaking, to which, if the water use purpose were licensed, the licence would be appurtenant;

[25] Therefore, determining the date of first use of groundwater gives the decision maker the discretion to identify the date from which the decision maker is satisfied that the water has been used regularly and beneficially on an ongoing basis.

[26] Section 1 of the *Act* defines "beneficial use" as:

"beneficial use",

…

(b) in relation to a use of water other than under an authorization, means using the water for a water use purpose

(i) as efficiently as practicable,

(ii) in accordance with any applicable regulations, and

(iii) in accordance with the provisions of this Act or the regulations that apply in relation to the use of water without an authorization;

[27] Since the date of first use being determined in this case is use of the water without an authorization, part (b) of the beneficial use definition applies. The decision maker must therefore determine the date from which the decision maker is satisfied that the water has been used regularly and as efficiently as practicable on an ongoing basis. This wording indicates continuity over time in determining the date of first use.

[28] Subsection 140(3) of the *Act* provides that the method for determining the precedence date of an authorization for the purposes of the regulations under this provision may provide for the rights under the authorization to have precedence from the person's date of first use <u>for a specified water use purpose of a specified amount of water from the aquifer</u>. However, inclusion of this provision in the *Regulation* is not mandatory, as indicated by the word "may".

[29] Subsection 55(5) of the *Regulation* provides that the date set out in an authorization issued in relation to an application under subsection (1) of this section is to be the person's date of first use in relation to the diversion and use of water from the aquifer. The *Regulation* does not provide, as would have been permissive

under section 140(3) of the *Act*, for the rights under an authorization to have precedence from the person's date of first use for a specified water use purpose of a specified amount of water from the aquifer. Therefore, to determine the precedence date of the new existing use groundwater licence, subsection 55(5) of the *Regulation* directs the decision maker to establish when the applicant first diverted and used water from the aquifer, without reference to the specified water use purpose or the amount of water used. I find that the applicable provisions of the *Regulation* are therefore silent on whether the amount of groundwater to be licensed is that which is being diverted and used on February 29 2016, or on the date of first use, or at any other time.

[30] However, for the purposes of satisfying a decision maker as to a person's date of first use of groundwater from an aquifer, section 15(1)(e) of the *Regulation* requires the person to provide all the following information to the decision maker:

> (e) the history of the use of groundwater in relation to the appurtenancy described in paragraph (d) from the aquifer, including, without limitation,
>
> (i) the date from which, to the person's knowledge, any person made beneficial use of the groundwater in relation to that appurtenancy,
>
> (ii) the quantity of water beneficially used by the person for each water use purpose identified under paragraph (c) in each year since the person owned the appurtenancy, and, to the extent known, the quantity of groundwater beneficially used for each water use purpose identified under paragraph (c) in each year of the period from the date referred to in subparagraph (i) to the date the person became the owner,
>
> (iii) an explanation for any significant increases or decreases in the quantities referred to in subparagraph (ii) that occurred since the date referred to in subparagraph (i), and
>
> (iv) any changes in the appurtenancy of the water use or the water use purposes of the water diverted from the aquifer that occurred since the date referred to in subparagraph (i) and a description of the changes.

[31] The above information, if available, is of assistance if the amount of water diverted and used over time and the land irrigated are the same from the date of first use to February 29, 2016. However, even if the person had a means to physically measure the quantity of water used in each year, where there have been significant increases or decreases in the quantities used beneficially, I find no requirement in the legislation for the decision maker to decide whether to include in the existing groundwater use licence the amount of water being used or diverted on the date of first use, or on February 29, 2016, or on an average year of beneficial use, or on any other specific time frame. I find it is therefore important to examine the decision maker's discretion in making this decision.

2. Does the decision maker have discretion in setting the volume of water and the extent of land that can be irrigated under an existing use groundwater licence as those in use on February 29, 2016, or on the date of first use, or at any other time?

[32] In *William Di Pasquale v. Assistant Water Manager*, Decision No. EAB-WSA-20-A004(a), October 16, 2020 [*Pasquale*], the Board turned to examining the discretion accorded to the decision maker specifically within section 14(1)(f)(i) of the *Act*:

> [43] Turning to the specific section of the *Act* that lies at the heart of this appeal, section 14(1)(f)(i) of the *Act* states that the Water Manager "may, in accordance with this *Act* and the regulations... issue to the applicant, subject to prescribed terms and conditions and on the terms and conditions the decision maker considers advisable" one or more water licences. I find that the word "may" indicates that the Water Manager has discretion when deciding whether to issue water licences. The parties agree that the Water Manager must exercise this discretion in accordance with the language in section 14(1)(f), and the scheme and purposes of the *Act*.
>
> ...
>
> [47] Reading section 14(1)(f) in the context of the *Act*, and considering the *Act*'s purposes and scheme for authorizing water diversion and use, I find that the discretion to issue a licence subject to the terms and conditions that the Water Manager "considers advisable" should be interpreted broadly. This discretion needs to be broad so that decision-makers have flexibility to meet the *Act*'s regulatory and environmental objectives, and to craft licence terms and conditions that are responsive to the varied circumstances of water resources and users in different parts of the Province. I find that the Board's interpretation of the word "advisable" in *Bettner*, regarding the permitting scheme in section 14 of the *Environmental Management Act*, applies similarly to that word in section 14(1)(f) of the *Act*: the word "advisable" indicates a broad and subjective discretion to impose licence terms and conditions that further the *Act*'s purposes and objectives, including protecting environmental flow needs over and above the needs of water licensees, based on all of the relevant information as well as the decision-maker's professional knowledge and experience.

[33] Although I am not bound by the Board's past decisions, I agree with this reasoning in *Pasquale*, and I find that the Respondent's (and my) discretion is broad and subjective in setting the amount of water and the amount of the Appellant's land that can be irrigated under this Licence. Having found this discretion, I can turn to submissions relating to Issue 3.

3. Do the evidence and facts in this case support varying the Licence as requested by the Appellant?

Summary of the Appellant's submissions

[34] The Appellant states that he owns approximately 56 hectares of land in the Agricultural Land Reserve, of which about 18 hectares are suitable for some irrigated crops. He has an irrigation system that is designed to irrigate 15 hectares (8 for grapes and the remainder for forage and pasture). He says he currently has 12 hectares with irrigation infrastructure, consisting of overhead and drip for 8 hectares of grapes, and overhead (movable pipes with gun) for the remaining 4.

[35] The Appellant outlined his historical irrigation of his property. From 1983 to roughly 2003, he irrigated 12 hectares (8 of grapes, 4 of forage). After this, a prolonged drought and low water levels in his well forced him to temporarily stop irrigating forage acreage, and water only the grapes. The Appellant states that this was an adjustment to external circumstances and not an abandonment of water rights. He submits that reducing water withdrawal due to external circumstances such as low water levels does not indicate that the operator wants to permanently abandon irrigation on an existing plot of land serviced by existing infrastructure. He states that aquifer 257 is one of the aquifers in the Okanagan that fluctuates wildly in certain years. He states it is not an option to apply for a new licence when they want to revert to irrigate the total land area previously under cultivation or change the crop.

[36] The Appellant calculates that irrigating 12 hectares for forage would require about 122,500 m^3 of water per year. He states the most surface water allocation decisions, at the time his well was established, were based on the amount of water used by forage crops. He submits that allocating water based on the crop presently being irrigated imposes unacceptable limitations on producers growing low water using crops such as grapes. The Appellant states that basing the allocation on the water needs of grapes is particularly restrictive in areas that are considered to be fully allocated, where obtaining a new licence or a licence amendment is not an option. He requests that all 'grandfathered' groundwater licences be based on the water demand of forage crops.

[37] The Appellant submits that water purveyors are allowed to maintain a considerable amount of water in reserve for future needs. He cites a report prepared for the Okanagan Basin Water Board and includes tables from the report showing that, in an average year, about one third of the allocated water is being used by purveyors. He states that there is no valid argument to restrict individual producers with their own water supply infrastructure, and more arable land than what is currently being irrigated, to a minimalistic allocation based on the crop on the ground.

[38] The Appellant submits that grape plantings are important for food security in British Columbia because they build soil health and fertility thanks to the practices of cover cropping and organic soil amendments, and they use infrastructure that can be useful to produce Canadian food crops. He argues that fresh food production from California, other southern states, and Mexico will decrease due to shortage of water and extreme temperatures due to climate change impacts. He stated this conversion will only be possible if sufficient water will be available to change to higher water demand crops in British Columbia. He states that, according to current practice and the *Act*, grape growers would have to apply for new water licences to meet the irrigation need if their crop changes. He argues that it is likely no more water will be available for this adjustment, since the only water that is truly dedicated to agriculture has to be recorded by an enactment under section 82[8] of

[8] Section 82(1) of the *Act* states, "For the purposes of a water sustainability plan, the Lieutenant Governor in Council, by regulation …, may dedicate, for qualifying agricultural use on qualifying agricultural land in the plan

the *Act* and put into an Agriculture Water Reserve under a Water Sustainability Plan for the watershed. The Appellant submits that since this requires approval by an Order in Council, which brings it into the political arena, it makes it practically impossible. He concludes that the Ministry's current approach and practice in regard to water for agriculture may result in severe food shortages for the people of British Columbia in a few decades.

Summary of the Respondent's submissions

[39] The Respondent provides an affidavit stating that, to benefit from the transitional provisions, "… the applicant is required to provide evidence of the date from which and the quantity of groundwater that was being used regularly and beneficially on an ongoing basis for a water use purpose on the proposed appurtenant land…" when the *Act* came into force. The Respondent submits that the quantity of groundwater that can be used under the Licence was reduced from the amount in the Application to reflect the extent to which groundwater was actually being used to irrigate the Appellant's vineyard in the period immediately preceding the *Act*'s effective date (February 29, 2016). The Respondent states that the Licence also reflects that only portions of the appurtenant lands were then under irrigation: 8.1 hectares.

[40] The Respondent testifies that in preparing the Technical Report, it was necessary for him to assess evidence of the date when the Appellant first used water from the aquifer, in a quantity "…that was being used regularly and beneficially on an ongoing basis for a water use purpose on the Appellant's Property", up to the *Act*'s effective date, February 29, 2016.

[41] Paragraph 17 of the Respondent's affidavit describes the method he used to calculate the quantity of groundwater that should be licensed:

> As described above, the reduction in the quantity licenced (as compared to the quantity applied for) was based on information collected with respect to actual groundwater use for irrigation of the Appellant's Park Rill Vineyard (by drip irrigation system) but also included an allowance for a cover crop. To determine water demand for irrigation purpose associated with the Appellant's Property, I input data and other information into the electronic tool used to calculate agriculture water demand (known as the Agriculture Water Demand Calculator) and ran an Agriculture Water Demand Report for the hectares under irrigation to grow grapes on the Park Rill Vineyard, including associated cover crop and using a drip irrigation system...

[42] The Respondent states that on the *Act*'s effective date, the Appellant was not irrigating a forage crop and had not done so since 2004, which was confirmed with the Appellant and separately by the Respondent through analysis of available imagery.

[43] The Respondent adds that, for those parts of the Appellant's property not regularly and beneficially under irrigation on an ongoing basis on the *Act*'s effective

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area or part, a specified quantity of water, in a stream or aquifer, that is (a) both unrecorded and unreserved, or (b) held under a licence issued for a qualifying agricultural use on qualifying agricultural land in the plan area."

date, and therefore, not benefitting from "date of first use", the Appellant will still be able to submit a separate new groundwater application should further diversion and use of water be required in the future. The Respondent submits that, in that case, the priority date of such a new licence would typically be based on its application date.

Summary of the Appellant's reply submissions

[44] The Appellant submits that the fact that, since 2004, no forage crop was irrigated on the land is irrelevant, because until the issuance of the Licence in 2021 and possibly until the current appeal is settled, the Appellant has unfettered access to any amount of water in the aquifer, whether this was diverted or not, and therefore the beneficial use clause will only take effect on either April 15, 2021, or when the Board has rendered its decision. The Appellant argues that, therefore, the Licence volume must be based on the twelve hectares originally applied for.

The Panel's Findings

[45] The Appellant urged the Board to set the Licence terms to correspond to what is needed to irrigate 12 hectares of forage; he stated that they currently grow grapes on 8 hectares and have irrigated an additional 4 hectares for hay and pasture before 2016. He stated that from 1983 to around 2003, 12 hectares were irrigated (he submitted an aerial ortho photo from the 1980s or early 90s showing pasture being irrigated by a large irrigation gun on Lot 1). The Appellant would therefore have me consider licence terms that would reflect water use, type of crop and amount of land irrigated from the date of first use until he converted part of the irrigated land to grow grapes sometime in 2003 or 2004.

[46] The Respondent's affidavit states that he set the amount in the Application to "reflect the extent to which groundwater was actually in use to irrigate the Appellant's Park Rill vineyard and associated crop cover in the period immediately preceding the *Act*'s effective date (February 29, 2016)" and for the 8.1 hectares that were then being irrigated. As previously noted, the Respondent provided evidence that only 8.1 hectares of grapes, and no forage crops, were being irrigated since 2004, and that this evidence was confirmed by the Appellant.

[47] I find the terms regarding the amount of water and of land irrigated that should be set in an existing groundwater use licence is not only what was being used in the period immediately preceding February 29, 2016. The appropriate amount of water should consider past use and existing use to the extent that they can be supported by evidence and according to the decision maker's discretion based on the language in section 14(1)(f)(i), and informed by the scheme and purposes of the *Act*. For example, it would be unreasonable to set the amount of water for an existing groundwater use licence at what was used on or immediately preceding February 29, 2016, in a case where groundwater level recently decreased temporarily if, for a number of previous decades, the documented diversion and use was much greater and the user demonstrates they will return to the previous level of use as soon as groundwater levels are restored.

[48] The Respondent's evidence of the Appellant's use of water from the well between July 30, 1981, and February 29, 2016, consists of the documented installation of the well, pump, and irrigation system, and photos and maps showing

diagrams of the layout of the irrigation system. I find that this is reliable evidence of the date of first use.

[49] The Appellant submitted that from 1983 to around 2003, 12 hectares were irrigated, including 4 hectares for hay and pasture. He submitted a photo from the 1980s or early 1990s showing irrigation using a sprinkling gun. However, I find there is insufficient evidence showing the Appellant's groundwater use to irrigate 4 hectares of his land for pasture crops between 1983 to 2003. More importantly, there is no evidence of this use between 2004 and February 29, 2016, which is a significant gap in this use. In addition, although the Appellant has requested a system that will provide existing water rights holders with future flexibility to change crops or enough groundwater use to support forage, he has not submitted specific current or future plans or applications to do so.

[50] Regarding the Appellant's argument that the beneficial use clause does not come into effect until this appeal is decided, I find the beneficial use clause is not an issue to be decided in this appeal. The current appeal deals with the actual amount of water diverted and used and the amount of land irrigated prior to and on February 29, 2016, not to the theoretical past access to any amount of water in the aquifer or to any potential future application of the beneficial use clause.

[51] Further, I note that section 5(2) of the *Act* states that "The property in and the right to the use, percolation and flow of groundwater … are for all purposes vested in the government and are conclusively deemed to have always been vested in the government except insofar as private rights have been established under authorizations …". Also, section 5(3) of the *Act* states that "No right to divert or use water may be acquired by prescription." "Prescription" means the acquisition of a personal right by way of continuous use. This means that the Appellant's use of, or access to, water from the aquifer to irrigate the Property before he received the Licence did not give him a right to use such water. The water in the aquifer belongs to the government, and not to him, except to the extent that the Licence authorizes him to divert and use water from the aquifer.

[52] I find, and both parties agree, that there is reliable evidence that prior to and from 2004 to February 29, 2016, the Appellant was diverting and using water under section 140(1) of the *Act*, that is, the water to support 8.1 hectares of grapes with an allowance for a cover crop. I find that the Licence should allow for enough groundwater diversion and use to irrigate 8.1 hectares of grapes with a cover crop.

[53] However, I find that there are no specific records of the amount of water that was actually diverted and used for this purpose. In this case, and I suspect in the majority of past groundwater use cases, there are no actual measurements of the amount of groundwater diverted and used over time; therefore, the decision maker must use indirect evidence to establish the amount that was in use and that may be authorized for use under the licence.

[54] To estimate the amount of water that was used, the Respondent input data and other information into the AWDC, an electronic tool used to calculate agriculture water demand, and ran an Agriculture Water Demand Report for the Appellant's hectares under irrigation to grow grapes.

[55] The Appellant objected to the Respondent's use of this tool to determine the amount of water to include in the Licence, and to the Respondent's expert witness testifying regarding the AWDC.

[56] As the Appellant also objected to the Respondent's expert witness providing an expert opinion on the diversion of stored surface water to the aquifer, I will deal with the objections to both of those expert witnesses and to the use of the AWDC, as well as other arguments raised by the Appellant, before reaching a conclusion on this issue.

a. The Respondent's Expert Witnesses

The Respondent tendered Mr. Ted van der Gulik, P. Eng. (retired), and Mr. John Pogson, P.Geo., as expert witnesses who provided affidavit evidence and expert reports. Mr. van der Gulik was asked to prepare an expert report describing the development of the AWDC and how it operates to calculate water demand requirements for irrigation. Mr. Pogson was asked to provide an expert report on the likelihood of hydraulic connection of the Appellant's well and the adjacent stream, Park Rill.

Summary of the Appellant's submissions

[57] The Appellant submits that general caution on expert witness testimonies needs to be applied, and the background and relationship of the expert witness to the responding party needs to be taken into account. He states that Mr. Pogson is a current employee of the Ministry and as such he is speaking on behalf of his employers, including the Respondent. The Appellant submits that Mr. Pogson's testimony may therefore not be viewed as an impartial, objective and arms-length opinion.

[58] The Appellant summarizes Mr. van der Gulik's background and states that the Ministry is one of his clients as a consultant. He stresses that Mr. van der Gulik has been very involved in developing the AWDC and that he can be quite defensive when it comes under attack.

Summary of the Respondent's submissions

[59] The Respondent submits that the fact that the Respondent's experts are or were employed by the government, including by the Ministry, is not a conflict in itself, as long as the tribunal is satisfied that the expert is willing and able to give fair, objective, and nonpartisan evidence. The Respondent cites the Board's Practice and Procedure Manual's definition of an expert witness, and stated that there is no requirement for the expert witness to be at arm's length to any party. The Respondent adds that the Appellant has provided no evidence as to why the Respondent's experts are biased and that "...therefore claims of impartiality should not be given any weight". The Respondent submits that in *Shawnigan Residents Association v. Director, Environmental Management Act, Cobble Hill Holdings Ltd. and Environmental Appeal Board*, 2017 BCSC 107 [*Shawnigan*], the Supreme Court recognized that there is no legal impediment to having Ministry staff qualified as experts. The Respondent states the expert witnesses are registered licensed professionals and have been qualified as expert witnesses before, including in other

appeal proceedings before the Board, and that the expert evidence before the Board in these proceedings has been fair, objective, and nonpartisan.

Summary of the Appellant's reply submissions

[60] The Appellant submits that the Panel should consider the fact that Mr. van der Gulik has a personal stake in the validity of the AWDC, and that his professional reputation could be seen as being questioned in the context of this appeal.

The Panel's Findings

[61] The Board's Practice and Procedure Manual[9] defines an expert witness as a person who, through experience, training, and/or education, is qualified to give an opinion on certain aspects of the subject matter of the appeal. To be an "expert", the person must have knowledge that goes beyond "common knowledge". To be "qualified" to give expert opinion evidence on a particular subject matter, the Board must be satisfied that the witness has the appropriate experience and training to be an expert in the matters for which he or she is giving expert opinion evidence. Although the Respondent's expert witnesses have not been challenged with respect to their expertise, I will determine their qualification prior to dealing with the Appellant's objections to each.

[62] Mr. van der Gulik's curriculum vitae shows he is a retired professional engineer, was employed as provincial irrigation specialist and as senior engineer with the Ministry of Agriculture for many years, and was involved in developing the AWDC. I am satisfied that Mr. van der Gulik has the experience, training, and education that qualifies him to give expert opinion evidence on the development and use of the AWDC.

[63] Mr. John Pogson's Letter Report shows he is a Professional Geoscientist registered with the Engineers and Geoscientists of BC and has been employed with the Ministry since 2016 as a Regional Hydrogeologist. I am satisfied that Mr. Pogson has the experience, training and education that qualifies him to give expert opinion evidence on hydraulically connected streams, the diversion of stored surface water to aquifer 257, and associated issues.

[64] As submitted by the Respondent, the Supreme Court of British Columbia recognized in *Shawnigan* that there is no legal impediment to having Ministry staff qualified as experts. However, in that case, the Court found the Board had failed to qualify ministry staff as experts, while clearly relying on their opinion evidence in reaching its conclusions and depriving other parties of the safeguards contained in the Board's Procedure Manual with respect to notice of their expert evidence (at para. 108).

[65] In this appeal, there is no issue that the Respondent gave proper notice of expert witness evidence, but the Appellant questions the impartiality of both expert witnesses on the basis that they are not at arm's length from the Respondent. In *White Burgess Langille Inman v. Abbott and Haliburton Co.*, 2015 SCC 23 and *Mouvement laïque québécois v. Saguenay (City)*, 2015 SCC 16, the Supreme Court of Canada held that a tribunal could accept opinion evidence from an expert

[9] at page 47

affiliated with a party, as long as the tribunal was satisfied that the expert was willing and able to give fair, objective, and nonpartisan evidence. I find Mr. van der Gulik's and Mr. Pogson's submissions show no indications that they are not willing and able to do so. Further, I find their expert evidence is highly relevant and needed in the context of this appeal. Therefore, I accept the evidence of Mr. van der Gulik and Mr. Pogson as expert evidence.

b. Use of the AWDC

Summary of the Appellant's submissions

[66] The Appellant submits that using the AWDC to determine water volumes for issuing water licences, as the Respondent has done to develop the Licence, is inappropriate and must be discontinued. He cites the AWDC's lack of accounting for future climate change impacts on crop water needs. He states there are situations where a crop needs to be removed due to pathogen pressure, and specific cover crops are planted and irrigated as forage to reduce pathogen load in the soil. He adds that depending on the pathogen, this can take five to ten years. The Appellant concludes that until the Ministry has developed a reasonable method that gives producers certainty that they will have access to increased volumes of water, if they choose to or are forced to change crops, the system of allocating water based on what forage crops require needs to remain in place.

[67] The Appellant also submits that the AWDC lacks accuracy since it uses a crop specific factor that calculates what percentage of the full estimated evapotranspiration for the crop will be sufficient to keep the plant alive and meet the production goals of quality and yield that the producer needs to stay in business. He states that this factor will always be, at best, an approximation because it relies on a number of assumptions about the actual evapotranspiration rate of the specific crop, various phenological crop stages, other environmental factors beyond temperature, row orientation, etc. He asserts that these assumptions are often very rough estimates. The Appellant provides examples of Agriculture Water Demand Reports for kiwi and apricots that were inaccurate compared to the precipitation rate requirements reported in published studies that he provided.

[68] The Appellant adds that some wineries are trying to meet the lower cost market demand that requires higher yields per hectare that demand increased irrigation. He states that this is impossible to achieve with what the AWDC currently allows. Further, he referred to a study in Oregon showing that a substantial increase in irrigation (up to twice the normal amount) can mitigate the effect of the endemic Grapevine Red Blotch Virus on yield and quality, at least some of the time.

[69] The Appellant argues that the AWDC completely ignores the impact of climate change on the future water needs of all crops currently grown in the province. He submits that many growers may be pushed out of business because the *Act* can impose prohibitively expensive watershed assessments for any grower who needs to adapt to increased crop water demand in the future by applying for a new licence, and since there is no guarantee that any such licence would be granted.

[70] The Appellant submits that the AWDC has some value but should not be used for the purpose of determining licence volumes, because determining accurate water requirements for any crop is close to impossible, given the many variables that would have to be taken into account.

[71] The Appellant states that the Ministry did add a cover crop option to the AWDC that increased the amount of water available for grapes. However, when he asked Mr. van der Gulik whether this addition would be made to other perennial row crops that can grow cover crops in the alleyways, he was told that this would not be an option. The Appellant argues that perennial row crops such as berries, tree fruits, nuts, etc., must be granted the same option.

Summary of the Respondent's submissions

[72] As previously mentioned, the Respondent obtained an expert report dated November 10, 2021, from Mr. van der Gulik (the "van der Gulik Report") on the use of the AWDC to determine irrigation water requirements for water licensing.

[73] Page 1 of the van der Gulik Report describes the basic function of the AWDC, as follows:

> … the information that is input into the Calculator includes the area and location of the property; the climate type at that location, including peak evapotranspiration rates, peak flow rate, irrigated area, crop type, crop watering requirement, soil type, irrigation type, irrigation season, to calculate annual irrigation water demand, including monthly breakdown of that demand during the irrigation season.

[74] The van der Gulik Report goes on to describe the history of the AWDC and details of how it operates.

[75] The Respondent submits two other reports co-authored by Mr. van der Gulik: the Agriculture Water Demand Model Factsheet, and an Agriculture Water Demand Model Report for the Okanagan Basin. Mr. van der Gulik testified that more recently, the AWDC was developed to help determine irrigation agriculture water demand for water licensing purposes, including for existing use groundwater licence applications. It used climate data from 2000 to 2010, which yielded higher values for the amount of water required than data from previous decades, and was used to inform decisions on licence applications. He added that there are no plans to upgrade the calculator with new climate data at this time. He stated that since climate data are averaged over a decade, there is a risk that the amount of water demand calculated will not be sufficient for all years. He added that this would be consistent with how water licensing was done in the past. He stated that the results have shown to be very close to what historically would have been determined by a manual calculation based on those same factors.

[76] The van der Gulik Report attaches an Agriculture Water Demand Report for the irrigated areas of the Appellant's property, using as inputs, among other things, the irrigated area as 8.1 hectares and the crop as grape (with a cover crop). The resulting annual irrigating demand is 56,270 m^3. Mr. van der Gulik testified that these results are comparable to those of the Agriculture Water Demand Report used by the Respondent in making the licensing decision under appeal. He added that it

had comparable results as those produced by the Respondent for the areas on the Appellant's property irrigated to grow grapes and a cover crop at the Park Rill Vineyard.

[77] The Respondent submitted several Agriculture Water Demand Reports, with the following results:

(1) for a default crop of forage, on 12 hectares: 123,120 m^3;

(2) for grape varieties currently grown, on 12 hectares: 45,180 m^3;

(3) for grape varieties (with a cover crop) currently grown, on 8.1 hectares: 61,410 m^3.

[78] He provided a map of the grape varieties and acreage by block, captured by GPS in November 2004, for the Park Rill Vineyard. He used this information as inputs to the AWDC to produce the two reports based on grapes.

[79] The Respondent submits that the minor difference between the water demand predicted by his report for grape varieties with a cover crop and the water demand predicted by the Agriculture Water Demand Report in the van der Gulik Report are attributable to the points selected for climatic grids when running the AWDC. He stated that this would be a relatively minor variation as compared to the volume requested in the Appellant's licence application for almost double the quantity "for a crop that is not being grown."

Summary of the Appellant's reply submissions

[80] The Appellant submits that the Respondent did not address the Appellant's evidence regarding the crop water demands of kiwi and apricots versus that calculated for those crops using the AWDC. He states that this evidence demonstrated glaring inadequacies and errors in estimating crop water demands using the AWDC and that any tool with such deficiencies cannot be allowed to be used for calculating the licence volume. He cites the Water Authorization Application Assessment and Process Guide for Applicants submitted by the Respondent as saying that the decision maker may use, but is not obligated to use, the AWDC and that the decision must be made having regard to the range of crops that might be grown on the land.

[81] The Appellant objects to the fact that there are no plans to upgrade the AWDC with new climate data at this time. He states that the Respondent admitted that since climate data is averaged over 10 years, the amount of water demand calculated will not be sufficient for all years. The Appellant concludes that there will be crop losses at least one out of every 10 years and that, therefore, the average calculated over 10 years becomes the maximum allowed in any year. He suggestes that regulators should use a running average over 10 years, where some years are above and some are below the average, and if the 10-year average is not exceeded, there would be compliance with the licence.

[82] The Appellant questions the validity of Mr. van der Gulik's statement that the calculations of the AWDC are correct because they are very close to that determined by manual calculation based on the same factors. The Appellant

emphasizes that he has questioned the validity of the factors used, not the accuracy of the calculations.

[83] The Appellant states that the Respondent lists the Appellant's surface water rights and mentions that the 15 acre-feet per annum are available for irrigating 1.52 hectares of land (9.87 acre-ft. or 12,172 m^3/hectare). The Appellant adds that the volume of water applied to the 1.52 hectares equates to a precipitation rate of 1,217 millimetres (mm), which is considerably more than the 1,022 m^3 the AWDC calculated for forage on the Appellant's property. The Appellant states that if this precipitation rate is applied to the 8.1 hectares of grapes, the volume per year would be more than 98,500 m^3 instead of the 61,410 m^3 proposed by the Licence. The Appellant concludes that the calculations used to determine the water volume authorized in the Licence are not reliably consistent and should not be used to determine groundwater licence volume in watersheds that are fully recorded, with no chance of rectifying any errors in the future.

The Panel's Findings

[84] No data were presented on actual measurements of groundwater use for irrigation from the Appellant's well. Therefore, to set the amount of groundwater diversion and use that should be allocated under the Licence based on existing use, other methods must be used. The Respondent chose to use the AWDC to estimate the water demand for irrigation purpose associated with the Appellant's property for the hectares under irrigation to grow grapes, including associated cover crop and using a drip irrigation system. Although use of this system for allocating water volumes in a licence is not mandatory, other Ministry officials appear to be using it[10] as well. Given the lack of measurements by the Appellant to show his groundwater diversion and use, I find that the use of the AWDC to estimate existing diversion and use is appropriate in the circumstances.

[85] The Appellant submits that the factors used as inputs to the Agriculture Water Demand Reports submitted by the Respondent and Mr. van der Gulik were not valid, since they were derived from various assumptions. I find that although some of the factors used as inputs to the Agriculture Water Demand Reports submitted by the Respondent and Mr. van der Gulik are based on assumptions and calculations rather than direct measurements, the assumptions and calculations are based on fully transparent, well-established procedures and expert opinion.

[86] I also note that the requirements in the Licence may, over time, assist the parties in clarifying how much water the Appellant needs. Paragraph j) of the Licence requires the Appellant to use a measuring device and/or a method of calculation to measure and record the volume of water diverted under the Licence to the satisfaction of an engineer under the *Act*. Paragraph k) of the Licence requires him to retain records of the water volume diverted under the Licence for inspection upon request by an engineer under the *Act*. It should be noted that the measuring device or method of calculation must be approved by an engineer under the *Act*. The Appellant and the Ministry, if they request it, will therefore have actual

[10] For examples, see *Pasquale*, at para. 6, and *Kenneth and Dawn Olynyk, Estate of Winfried and Astrid Reuter v. Assistant Water Manager*, Decision No. EAB-WSA-20-A009(b) and A012(b) July 30, 2021, at para. 28.

data of the groundwater volume diverted to irrigate the Appellant's 8.1 hectares of grapes and cover crop. These data will give the Appellant a basis for assessing the accuracy of the Respondent's and Mr. van der Gulik's Water Demand Reports used to set the limits in the Licence. If the Licence limits are inadequate, the Appellant could apply to the Ministry for an amendment of the Licence, under section 26(1)(i)[11] of the *Act*, to increase or reduce the quantity of water authorized to be diverted if it appears to have been erroneously estimated. If the amendment application is successful, the Licence will be amended but will retain its precedence date. If the Licence limits are verified by the flow records and the Appellant wishes to increase his diversion and use of groundwater in the future, the Appellant will be able to submit a separate new groundwater application. As the Respondent submitted, in that case, the priority date of such a new licence would typically be based on its application date.

[87] The AWDC's use of climate data from 2000 to 2010 and Mr. van der Gulik's testimony that there are no plans to upgrade the calculator with new climate data at this time is surprising considering generally acknowledged climate change expectations in the future. Further, Mr. van der Gulik stated that since climate data are averaged over a decade, there is a risk that the amount of water demand calculated will not be sufficient for all years. The Appellant suggested the appropriate method to determine licence limits would be to use the system of allocating to what forage crops require so as to allow changing of crops in the future. However, I find that this appeal relates to determining the amount of water that was being diverted and used before and on February 29, 2016, rather than establishing the water that will be needed for irrigating the Appellant's crops in the future. That issue would be considered if the Appellant were to apply for a new licence, should further diversion and use of groundwater be required in the future.

[88] Regarding the Appellant's examples of Agriculture Water Demand Reports for kiwi and apricots that he stated were inaccurate compared to the precipitation rate requirements reported in published studies he submitted, I find that he has not demonstrated they are applicable to the Appellant's circumstances, for the following reasons. The New Zealand study[12] does not demonstrate that kiwi fruit requires a precipitation rate of at least 1250 mm, but cites secondary sources for this figure. Further, there is no evidence that the factors used in the Appellant's agriculture water demand report for kiwi at the Appellant's location are the same as the conditions of the New Zealand studies. Similarly, I find the Appellant's submissions have not demonstrated that the Spanish study on apricot trees is applicable or comparable to the agriculture water demand report he calculated for apricots at his location.

c. Discrimination against grape growers

Summary of the Appellant's submissions

[11] Section 26(1)(i) states that a water manager may amend an authorization to "increase or reduce the quantity of water authorized to be diverted if it appears to have been erroneously estimated."

[12] Salinger, M.J., and Kenny, G.J., 1995, Climate and kiwifruit cv. 'Hayward' 2. Regions in New Zealand suited for production, New Zealand Journal of Crop and Horticultural Science, 1995, Vol. 23: 173-184.

[89] The Appellant submitted that the use of the AWDC has some inherent inequalities related to future ability for classes of producers to change crop based on the crop currently in the ground. He gave an example comparing the greater opportunity to change crops of a grower with water allocations for high water demand crops compared to a grower of low water demand crops. He argued that these differences in opportunities are discriminatory and contrary to the spirit of section 15 of the Canadian *Charter of Rights and Freedoms* in the *Constitution Act, 1982* (the "*Charter*")[13] and section 1(b) of the *Canadian Bill of Rights*[14], S.C. 1960, c. 44. He stated that, as a grape grower, his *Charter* rights are being infringed by the current practice of using the AWDC to determine licence volumes under sections 12(2), 14(d), and 14(3) of the *Act*.

Summary of the Respondent's submissions

[90] The Respondent submitted that there is no legal basis for the Appellant's claim of infringement of the *Charter* or other statutes. He stated the Board is not able to consider a constitutional question in this appeal because the Appellant did not provide notice of a constitutional question to the Attorney General of Canada and the Attorney General of British Columbia. In addition, he argued that the Appellant has not met the test set out by the Supreme Court of Canada for discrimination under section 15 of the *Charter*, including that grape growers as a profession is not enumerated as a class listed in section 15 of the *Charter*, nor an analogous class, which would be a personal characteristic that is immutable or changeable only at unacceptable cost to personal identity. Further, the Respondent stated that the Appellant's reference to inclusion of socio-economic rights as protected by the *Charter* has not been adopted by the courts. The Respondent submitted that the Board does not have the jurisdiction to grant certain remedies, such as to strike down legislation as unconstitutional.

The Panel's Findings

[91] The Board has the jurisdiction to consider *Charter* arguments, but the Appellant's Notice of Appeal did not allege an infringement of *Charter* rights. He did not apply to amend his Notice of Appeal to add these grounds for appeal or additional remedies. He also did not give notice as required by section 8(2) of the *Constitutional Question Act*, R.S.B.C. 1996, c. 68 (the "*CQA*"), which has explicit requirements for serving notices on the Attorney General of British Columbia and the Attorney General of Canada. If he had alerted the Board to his intention to make *Charter* arguments, the Board would have told him about the notice requirements in the *CQA*. Due to his failure to seek an amendment to his Notice of Appeal and to provide notice as required by the *CQA*, the Appellant has not followed

[13] Section 15(1) of the Charter of Rights provides as follows: 15(1) Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.

[14] Section 1(b) of the *Canadian Bill of Rights* protects the right of the individual to equality before the law and the protection of the law.

the appropriate procedure for raising these arguments, and I will not consider them further.

[92] However, I will address the relevancy of the Appellant's claim of infringement of rights by the current practice of using the AWDC to determine licence volumes under sections 12(2), 14(d), and 14(3) of the *Act*. I duplicate those sections here for reference:

> **12** (2) For the purposes of subsection (1)(b)(iii)[15], the decision maker may require that a specified assessment be performed, and a report of the assessment be prepared, by a person with the qualifications specified by the decision maker.
>
> …
>
> **14** (1) Whether or not notice is given, or objections are delivered, under section 13 in relation to an application, the decision maker may, in accordance with this Act and the regulations,
>
> …
>
> (d) order the applicant to provide in the form and manner specified by the decision maker plans, specifications, reports of assessments or other information, which information may include, but is not limited to, public personal information that is relevant to the application, respecting
>
> (i) the applicant,
>
> (ii) existing water users, riparian owners, other applicants and other authorization holders, whose rights are likely to be detrimentally affected if the application is granted, and
>
> (iii) land owners whose land is likely to be physically affected if the application is granted
>
> (3) For the purposes of subsection (1) (d), the decision maker may require that a specified assessment be performed, and a report of the assessment be prepared, by a person with the qualifications specified by the decision maker.

[93] All these provisions relate to orders or requirements for applications or decision maker initiatives. The Appellant referred to the potential requirement to provide expensive assessments under these sections in the event that in the future a low-volume crop grower that had been assigned low water levels in their licence according to the AWDC would then have to change crops and apply for greater volumes in their licence. I find that no such orders or requirements have been made regarding the Appellant's application that is the subject of this appeal, and there have been no decision maker initiatives. As such, these orders and requirements are not relevant to the current appeal.

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[15] Section 12(1)(b)(iii) provides that an applicant provide information the decision maker requests relevant to the application and decision maker initiatives.

[94] With respect to the Appellant's more general arguments that if grape growers, or growers of any low water demand crop, are issued licences to irrigate only the crop on the ground, that treatment is discriminatory and they will be put at a disadvantage compared to growers of high water demand crops, I find the existing groundwater use transitional provisions require the decision maker to assess the diversion and use of groundwater that was made for the "crop on the ground" prior to and on February 29, 2016, rather than potential use in the future. These arguments are not relevant to the current appeal.

d. Beneficial Use of Water Provisions

Summary of the Appellant's submissions

[95] The Appellant requested a change in section 30(3)(a) of the *Act* to lengthen the period (from 3 years to 10 years) during which the beneficial use of water must be demonstrated to retain a licence. He states that although the beneficial use concept was also part of the old *Water Act* (the *Act*'s predecessor), it was hardly ever implemented. He states that there is a current practice by water authorization officers to make this a part of the groundwater licence assessment and that this seems arbitrary, opportunistic, and prejudicial. He presented some scenarios to show why strict implementation of the 3-year rule will cause serious difficulties for the agriculture sector. He states that section 106(3)(f) of the *Act,* which provides that a person who fails to make beneficial use of water diverted by the person commits an offence, "… could be interpreted as an overreach of authority in the extreme."

Summary of the Respondent's submissions

[96] With respect to the Appellant's request that the *Act* and the *Regulation* be amended, the Respondent submitted that neither the Respondent nor the Board are empowered to amend the legislation.

[97] Regarding the Respondent's suggestion in the decision on the Application that the Appellant should submit abandonment applications for his surface and storage licences on Park Rill, or that alternatively the Ministry may initiate cancellation processes for licences where beneficial use is not being made, the Respondent stated that such processes have not been initiated. In addition, the Respondent stated such processes would require notice, an opportunity to object and possibly a hearing, and the resulting decision would be appealable to the Board; since these steps have not been taken, the matter is not presently before the Board.

The Panel's Findings

[98] I find I do not have the power to amend the beneficial use clause in section 30(3)(a) of the *Act* or section 106(3)(f) of the *Act*. They have been enacted by the legislature. The Board cannot amend legislation. In any case, they are not relevant to the present appeal.

[99] Regarding the Appellant's surface water licences, I find they are separate from, and not relevant to, the application for existing groundwater use under the

Licence and, as submitted by the Respondent[16], are therefore not currently before the Board.

e. Infiltration of stored surface water to aquifer

Summary of the Appellant's submissions

[100] The Appellant states that according to the Pogson Report, only Managed Aquifer Recharge ("MAR") would count as a legitimate diversion of surface water to aquifer storage, presumably because it is an engineered solution, but that Mr. Pogson conceded there is potentially a substantial "diversion" of water from surface storage to groundwater. The Appellant submits that the Park Rill reservoir is essentially an infiltration basin, and he presented evidence that there is considerable "diversion" of surface water to groundwater in the case of aquifer 257. The Appellant cites a number of published references which he claims show that there are other approaches to MAR besides the engineered injection approach. He quotes the 2021 Ministry study cited in the Pogson Report and emphasizes its statement that MAR methods to achieve recharge and recovery may vary and involve surface infiltration facilities and wells. The Appellant submits that he has invested over $60,000 over the last three years on upgrading the surface water reservoir, mostly for the purpose of stabilizing the downstream aquifer where the well is located. The Appellant seeks recognition of his Park Rill stored surface water as an infiltration basin for the aquifer, and that "diversion" of the licensed, stored surface water to the ground is not prohibited by the *Act*.

Summary of the Respondent's submissions

[101] The Respondent provided copies of the Appellant's surface water licences on Park Rill, appurtenant to the same land as the Licence (one for storage, including a dam and reservoir, and one for irrigation and domestic use). The storage licence's precedence date is November 8, 1996, and the licence for irrigation has a precedence date of July 5, 1898. In 2020, the Appellant carried out work on Park Rill dam to address dam safety issues and reduce the impounded volume of water to 7,323 m^3 from the original 15 acre-ft. per annum (approximately 18,500 m^3).

[102] The Respondent states that the Technical Report identified an issue as to whether the Appellant's well on aquifer 257 might be hydraulically connected to Park Rill. The Pogson Report states that, based on a nearby provincial observation well in aquifer 257, over the period from January 1, 1983, to October 18, 2021, historical groundwater levels have oscillated between periods of high groundwater followed by periods of low groundwater before returning to historical median levels over an approximately 15 to 20-year cycle. The Pogson Report concludes that it is reasonable to infer that during freshet or periods when the water level in Park Rill is greater than the adjacent aquifer, some water is transferred to that aquifer and that, conversely, in drier months, groundwater can be reasonably be inferred to support base flows in Park Rill. The Pogson Report concludes that, based on lithology and proximity, the Appellant's well is reasonably likely to be hydraulically connected to Park Rill.

[16] at para. 84 of the Respondent's Statement of Points

[103] In answer to the Appellant's question as to whether diversion from surface water to groundwater through percolation from via upstream licensed storage is a legitimate diversion under the *Act*, the Respondent submits that this question refers to MAR, and he cites the Pogson Report's use of the MAR definition in a Ministry report from 2021, titled "Assessment of Managed Aquifer Recharge (MAR) and Aquifer Storage and Recovery (ASR) Potential in British Columbia: Regional Opportunities and Regulatory Approach". That report states, in part, that MAR is:

> … the intentional recharge of water to suitable aquifers for subsequent recovery (use) and/or to achieve environmental benefits (e.g., augment stream flow, restore aquifer levels). … Methods to achieve recharge and recovery may vary and involve surface infiltration facilities and wells.

[104] The Ministry's 2021 report characterized MAR as an engineered solution requiring specified phases for its development. In the Pogson Report, Mr. Pogson stated that he is not aware of a full scale MAR system operating in British Columbia and that there is currently no specific assessment, regulatory and licensing framework for MAR under the *Act*. The Pogson Report concluded that MAR differs from incidental or unmanaged recharge, which is comprised of leakage or losses from infrastructure or anthropogenic activities. The Pogson Report stated that incidental or unmanaged recharge of an aquifer can occur as seepage losses from dams and reservoirs.

[105] Regarding the Appellant's argument that the diversion of licensed stream water to aquifer storage does not contravene the *Act* and must be allowed, the Respondent states that the water storage was recently reduced by the Appellant and any incidental or unmanaged recharge would be limited. The Respondent added that any such recharge would not demonstrate or justify continued use of groundwater for the purposes of the current appeal, which is based on actual demonstrated use existing on the *Act*'s effective date.

Summary of the Appellant's reply submissions

[106] The Appellant states that he is making beneficial use of the surface and storage licensed water by diverting it to the aquifer.

[107] The Appellant repeats that his infiltration basin should be allowed for the purpose of MAR. He reiterated that irrigated agriculture needs flexibility when designing and implementing regulatory systems to maintain viability of agriculture sectors and food security.

The Panel's Findings

[108] As previously mentioned, section 55 of the Regulation exempts existing groundwater use applications from consideration of the environmental flow needs of a stream that the decision maker considers is reasonably likely to be hydraulically connected to the aquifer. Nevertheless, the Respondent obtained the Pogson Report to describe the physical characteristics of aquifer 257 and to confirm and describe the hydraulic connection to Park Rill and describe MAR in B.C. The Appellant seeks recognition of his recently restored and reduced surface water storage facility as MAR. Both the Appellant's observations and the Pogson Report provide evidence that there is likely a hydraulic connection between the Appellant's well and Park Rill,

and that perhaps the Appellant's surface water storage facility is acting to recharge the aquifer and the well when surface water levels are high, and that in drier months the groundwater and the Appellant's well probably support base flows in Park Rill. I find that although these submissions may become relevant to future applications or government actions regarding the Appellant's surface water licences, they are not relevant to the issuance of the Licence under the transitional existing groundwater use provisions of the Act and the Regulation.

Conclusion

[109] I have found that the terms regarding the amount of water and of land irrigated that should be set in an existing groundwater use licence are to be based not only what was being used in the period immediately preceding February 29, 2016, but should also consider past use and existing use to the extent that they can be supported by evidence and are within the decision maker's discretion in accordance with section 14(1)(f)(i) and the scheme and purposes of the *Act*.

[110] In this appeal, there is reliable evidence that from 2004 to February 29, 2016, the Appellant was diverting and using water under section 140(1) of the *Act* to support 8.1 hectares of grapes with an allowance for a cover crop. There is also sufficient evidence to support the volume of water authorized under the Licence to irrigate that land. Although there may have been more extensive water use and additional land irrigated in the past, there has been a significant gap in such use since 2004 and no concrete immediate plans to restore the more extensive use. The Appellant's evidence and legal arguments are insufficient to justify increasing the quantity of groundwater authorized for diversion and irrigation use under the Licence.

DECISION

[111] In making this decision, I have considered all the evidence and submissions before me, whether or not specifically referred to herein.

[112] For the reasons provided above, I confirm the terms and conditions in the Licence, and dismiss the appeal.

"Diana Valiela"

Diana Valiela, Panel Chair
Environmental Appeal Board

August 22, 2022